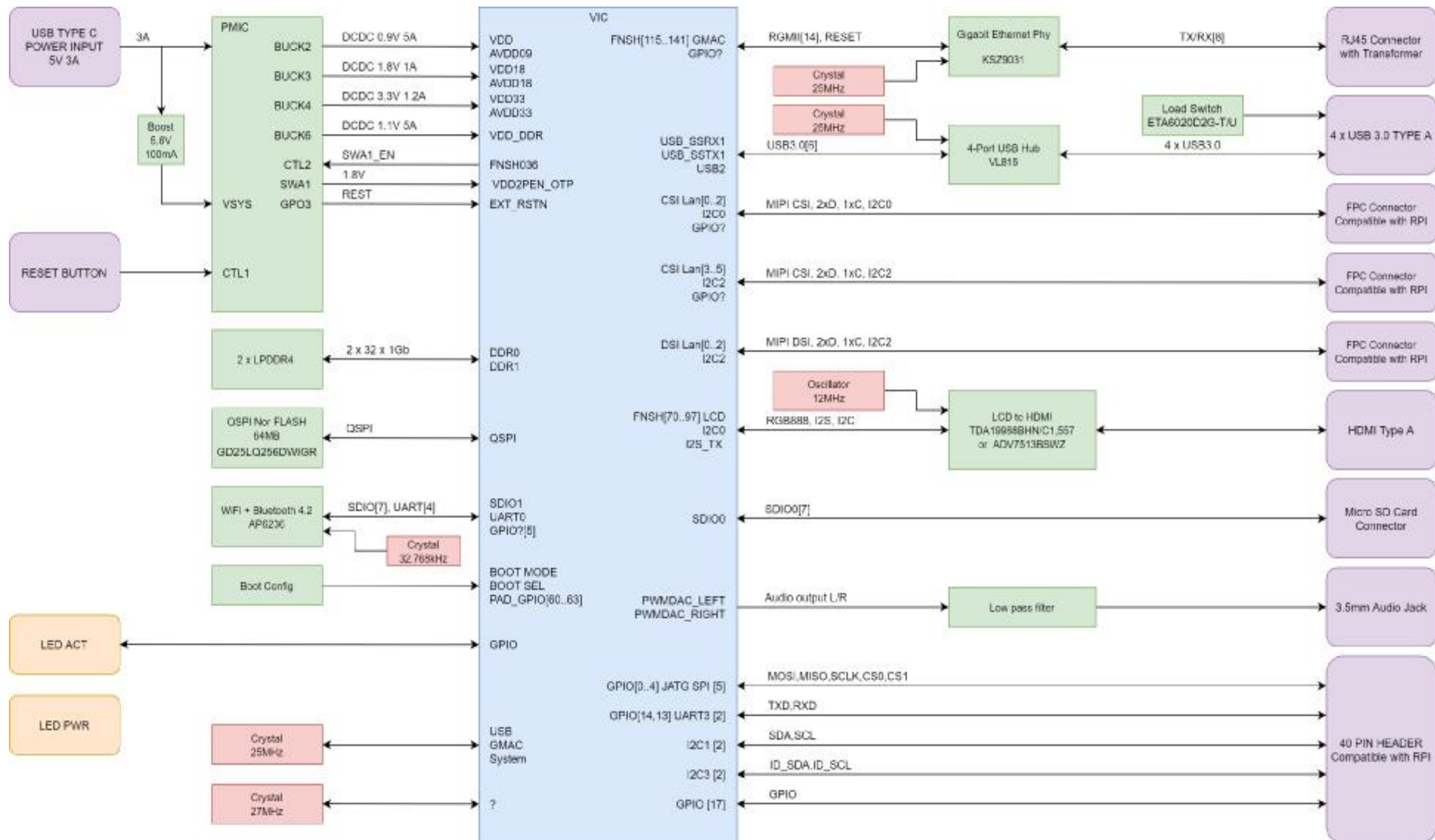


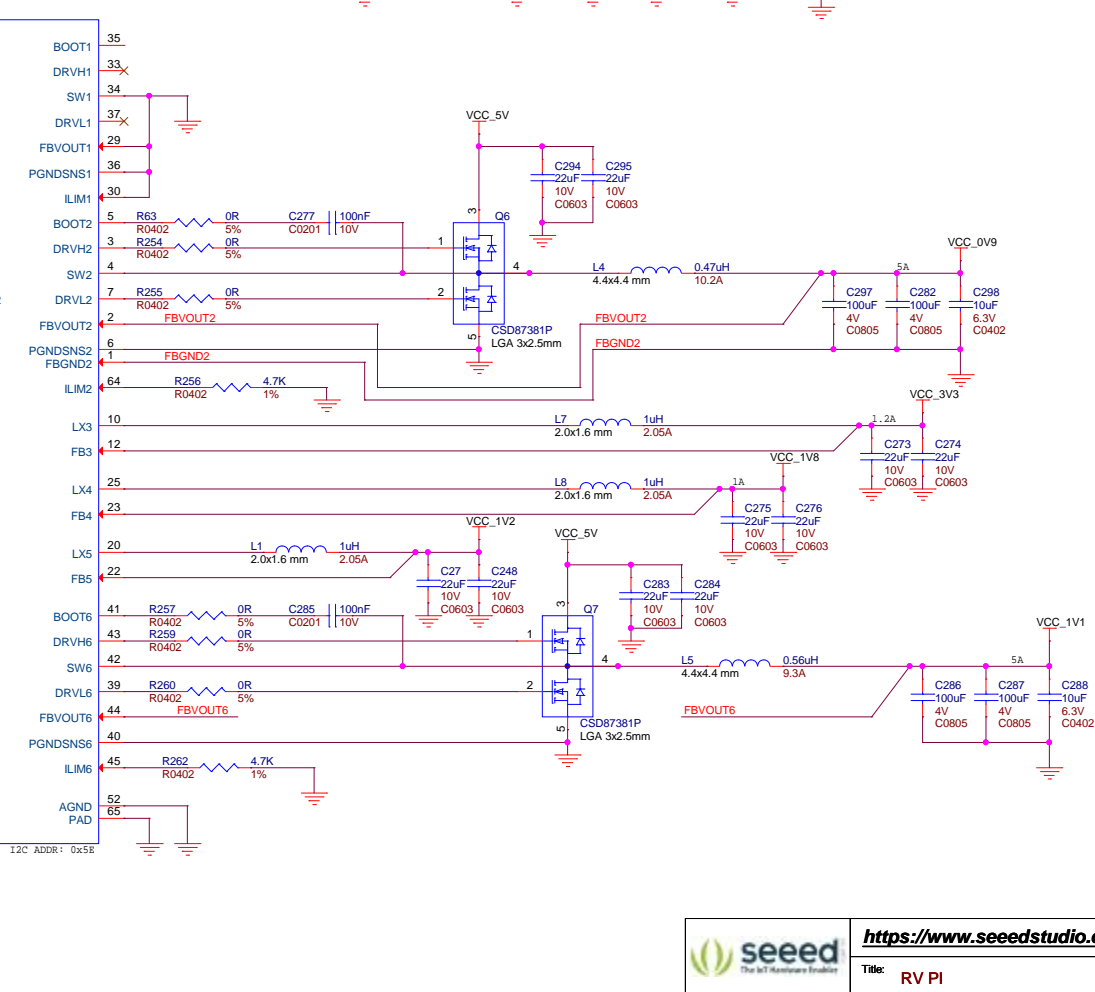
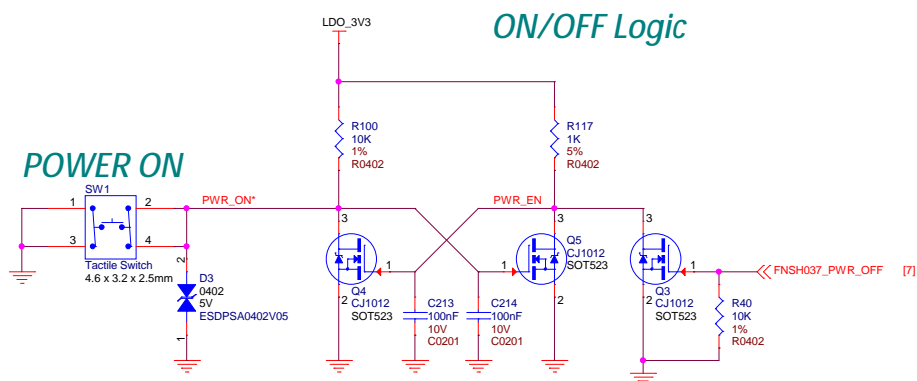
Schematic: Expansion Accessory

SHEET	SHEET NAME
01	Title/Revision History
02	System Block Diagram
03	Power Tree Diagram
04	PMIC
05	VIC Power
06	VIC DDR Ctrl
07	VIC ChipLink & CM
08	VIC LCD & GMII & GPIOs
09	VIC HighIF & Ctrl Other
10	LPDDR (A)
11	LPDDR (B)
12	Type C,uSD, QSIP Flash
13	USB 3.0 HUB
14	2 x USB TYPE A (A)
15	2 x USB TYPE A (B)
16	2 x CSI CONN
17	DSI, AUDIO JACK
18	HDMI FRAMER
19	WiFi, Bluetooth
20	10/100/1000 ETHERNET
21	RPI EXP CONN, LED, BUTTON

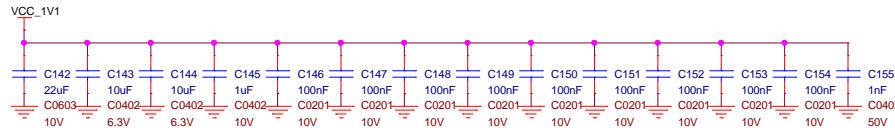
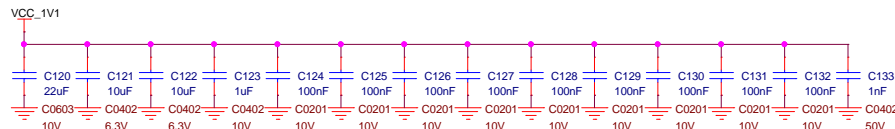
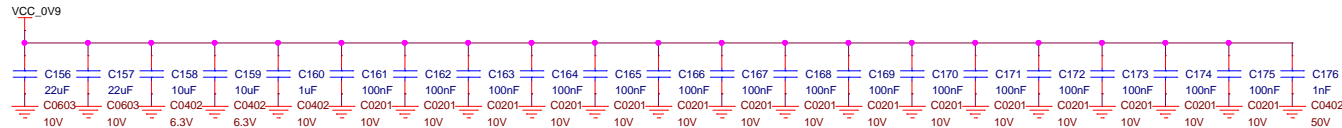
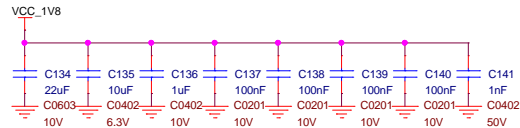
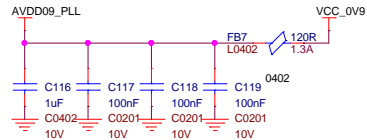
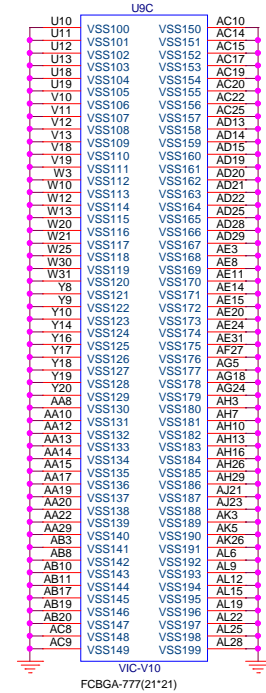
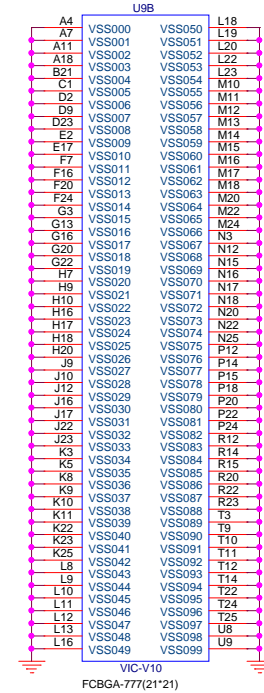
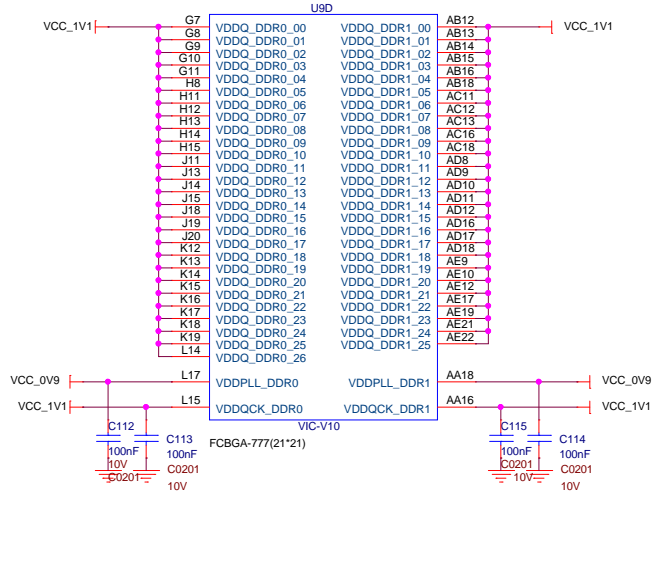
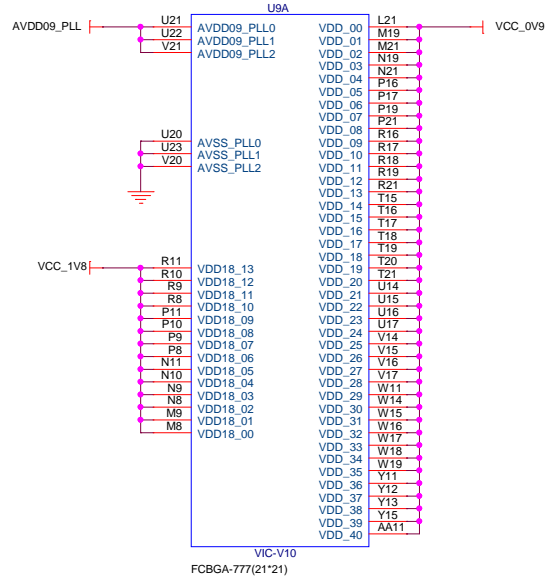
Revision History

DATE	REVISION	DESCRIPTION
Nov. 23 2020	v0.1	1. Initial release
Nov. 25 2020	v0.2	1. Add USB Hub circuit 2. Modify reset circuit of KSZ9031, removed interrupt function 3. Change 1V2 output form LDO3 to BUCK5
Nov. 25 2020	v0.3	1. Add Power down control and power on button

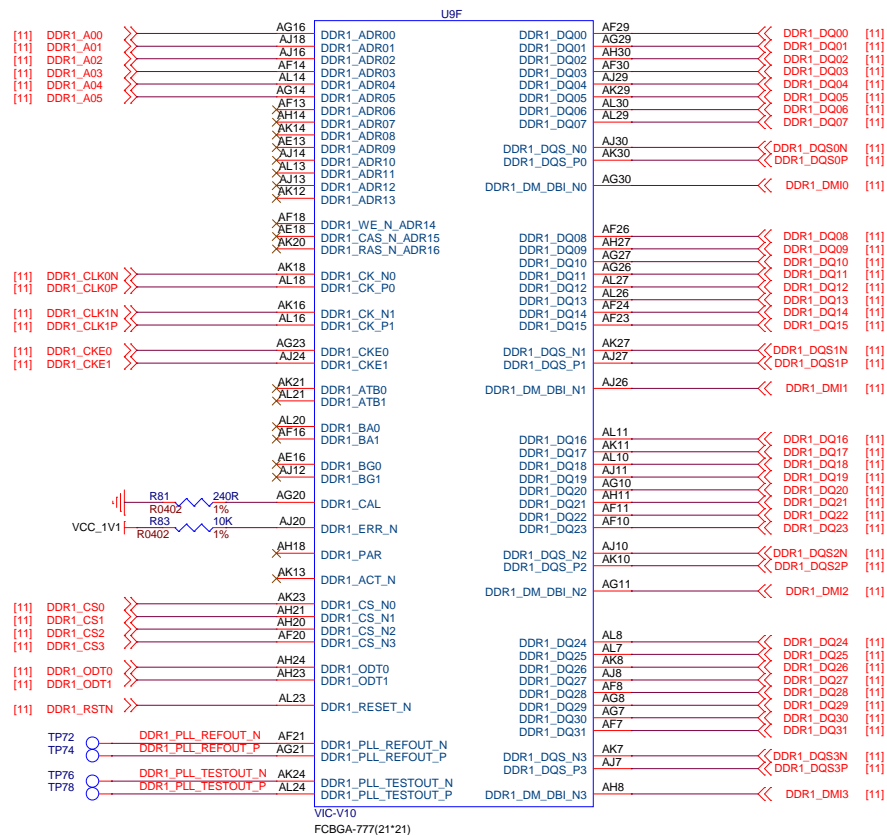
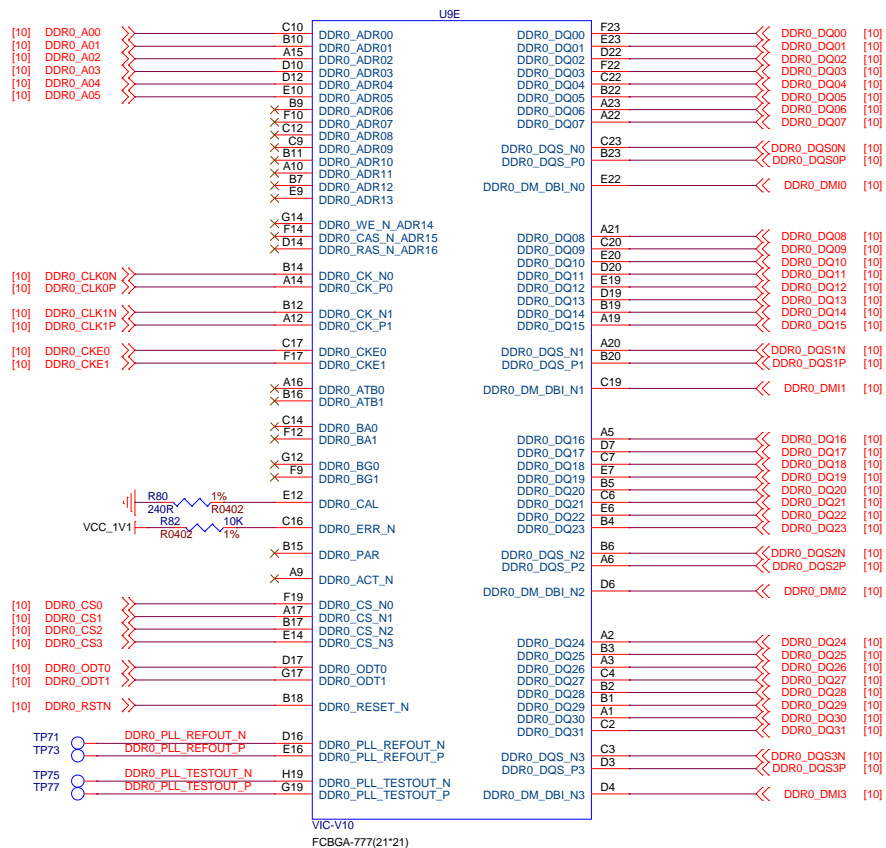




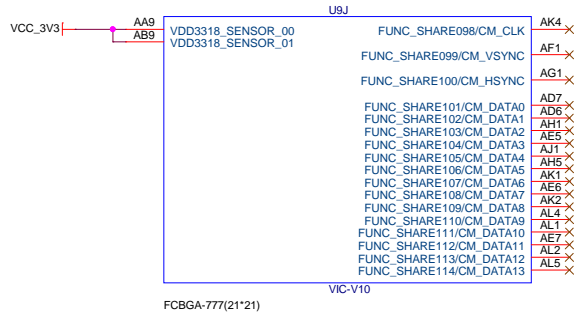
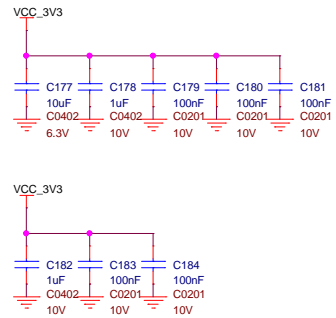
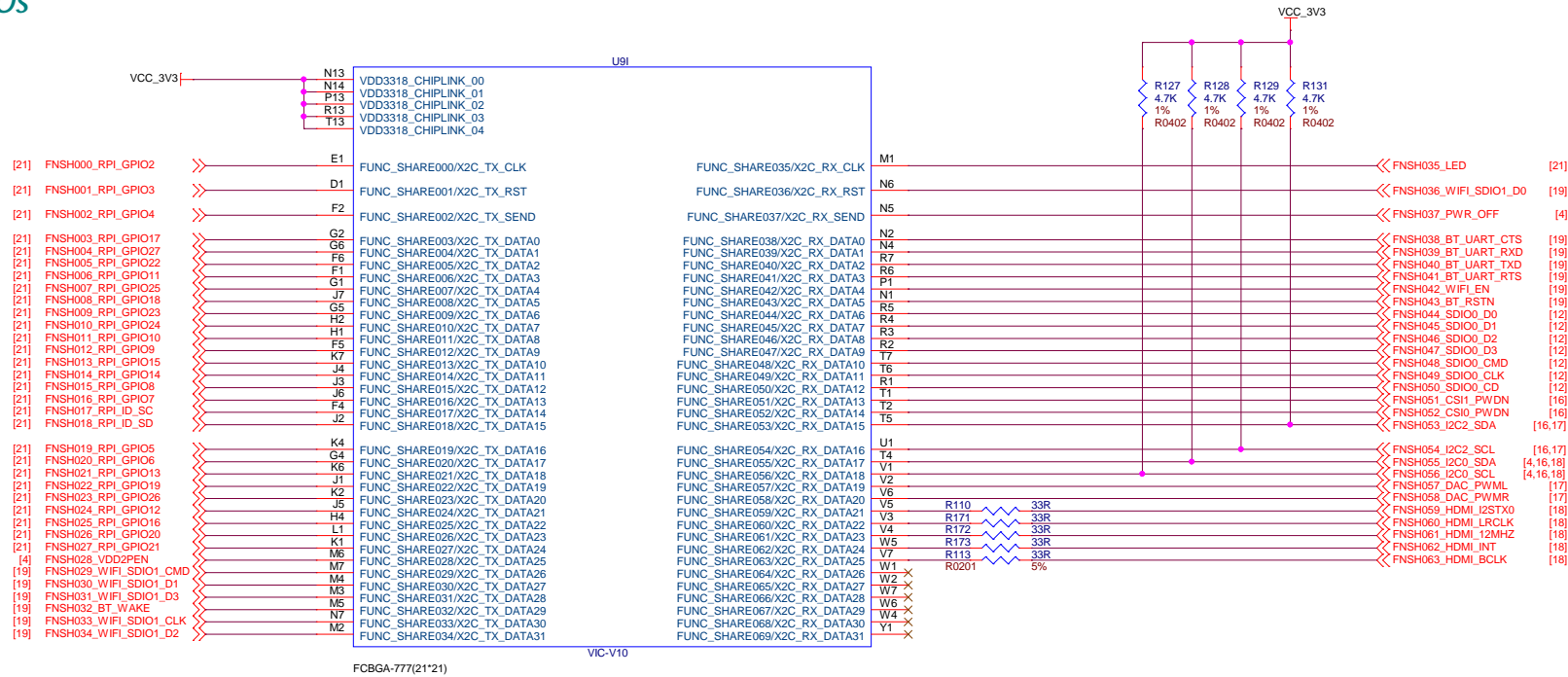
VIC Power



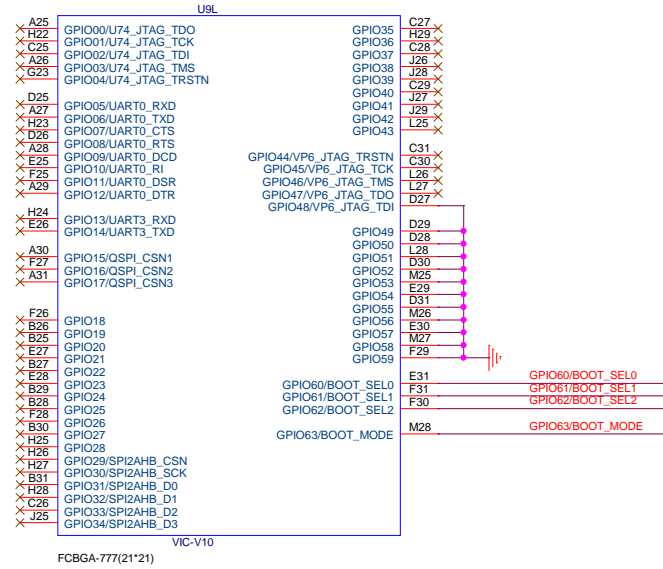
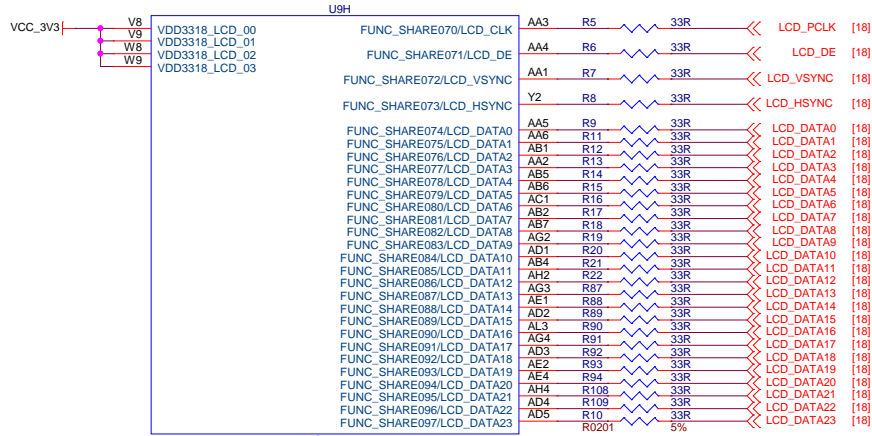
VIC DDR controller



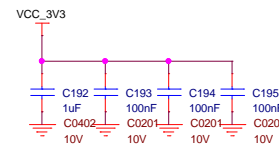
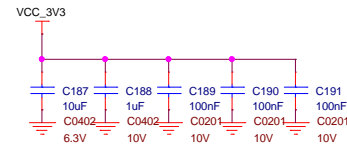
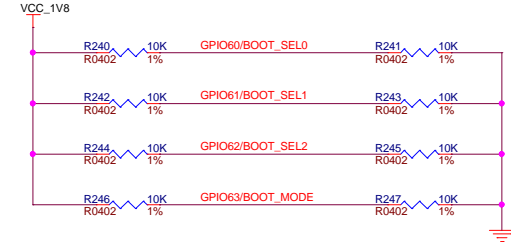
VIC 3.3V GPIOs



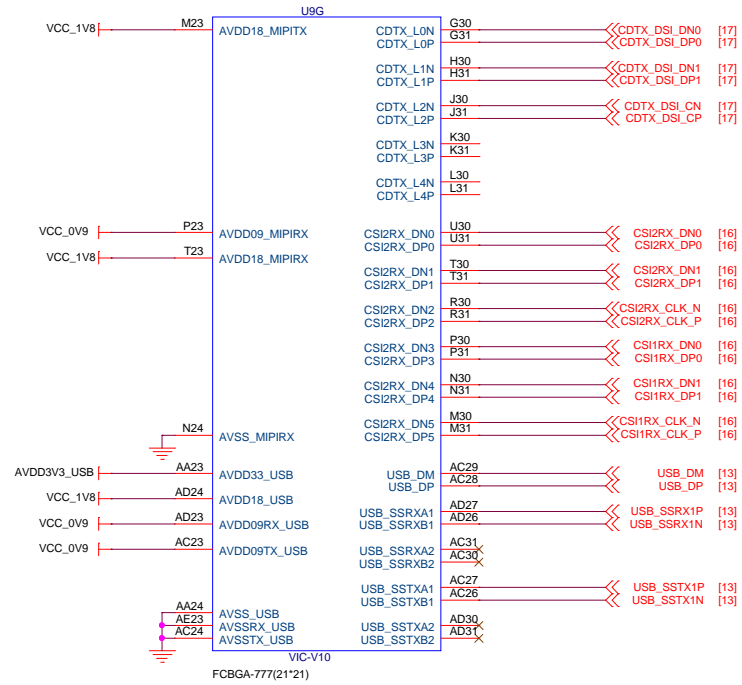
VIC LCD&RGMII



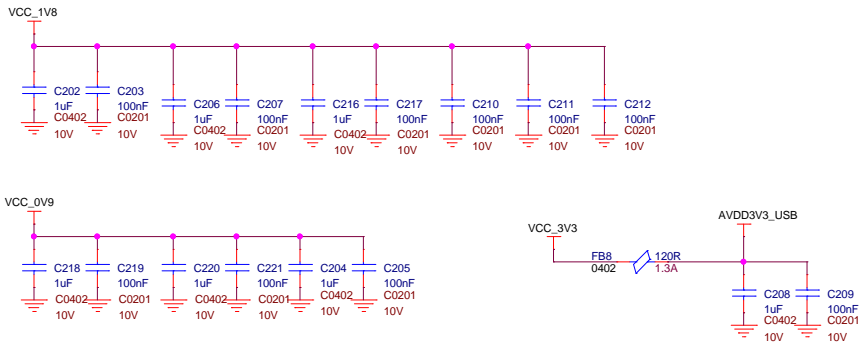
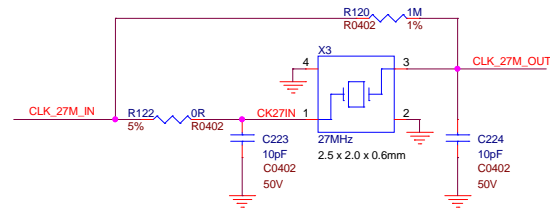
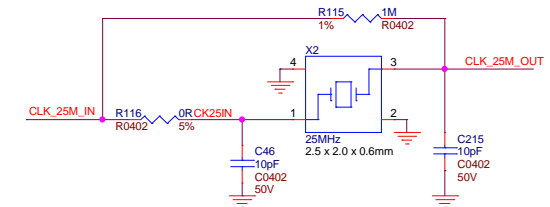
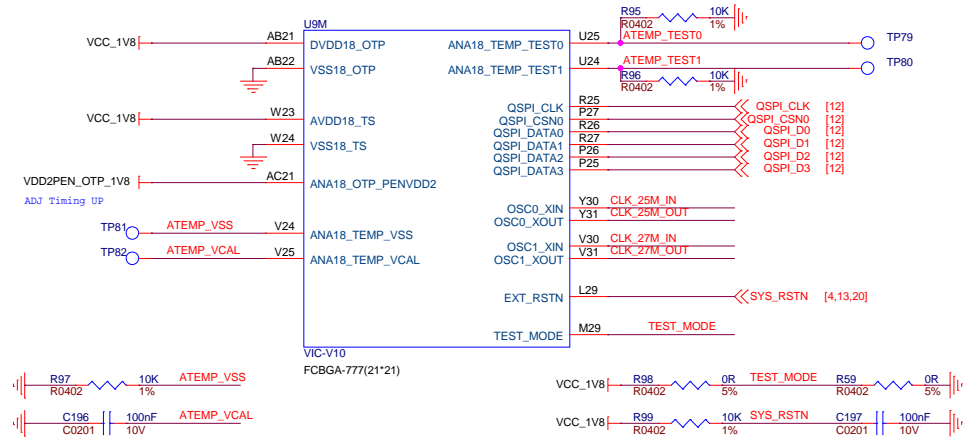
BOOT MODE



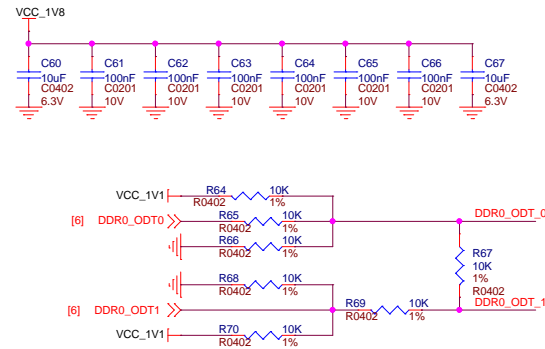
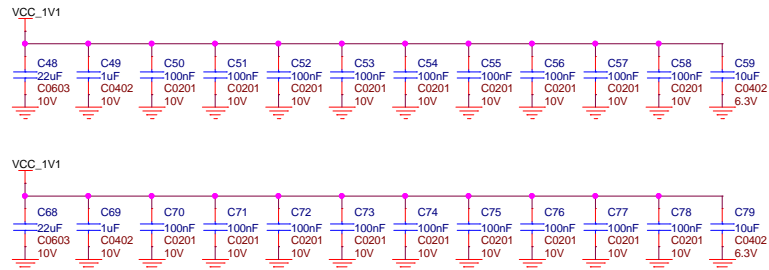
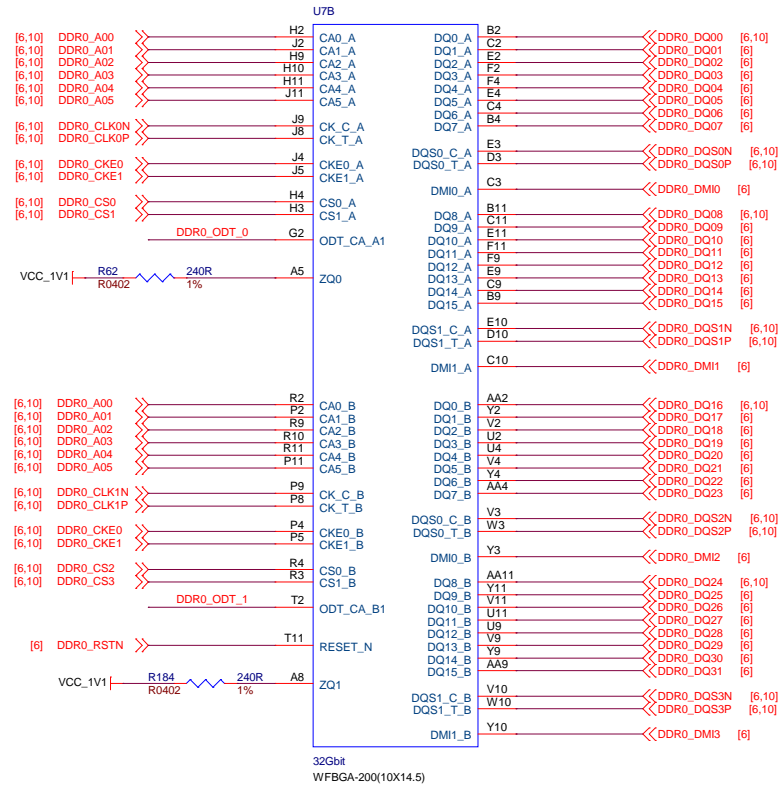
VIC MIPI&USB



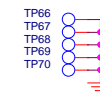
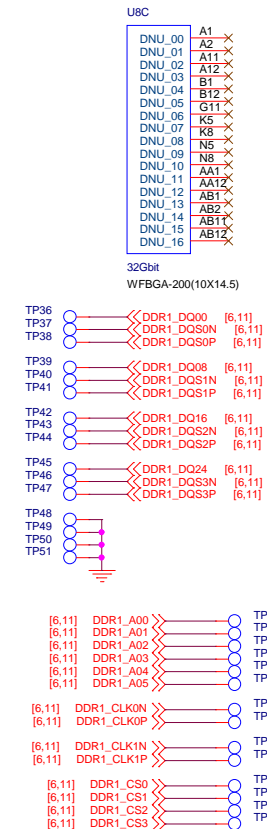
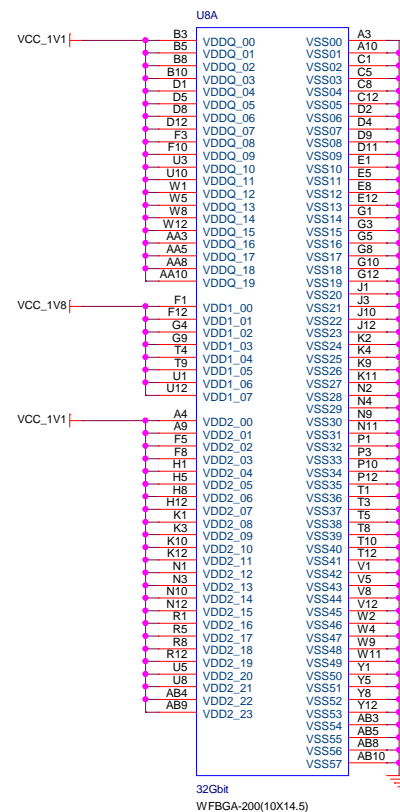
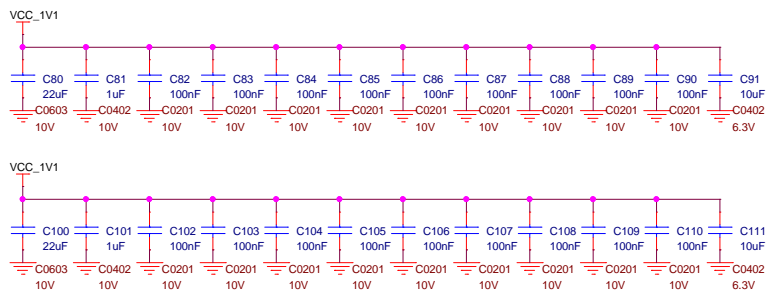
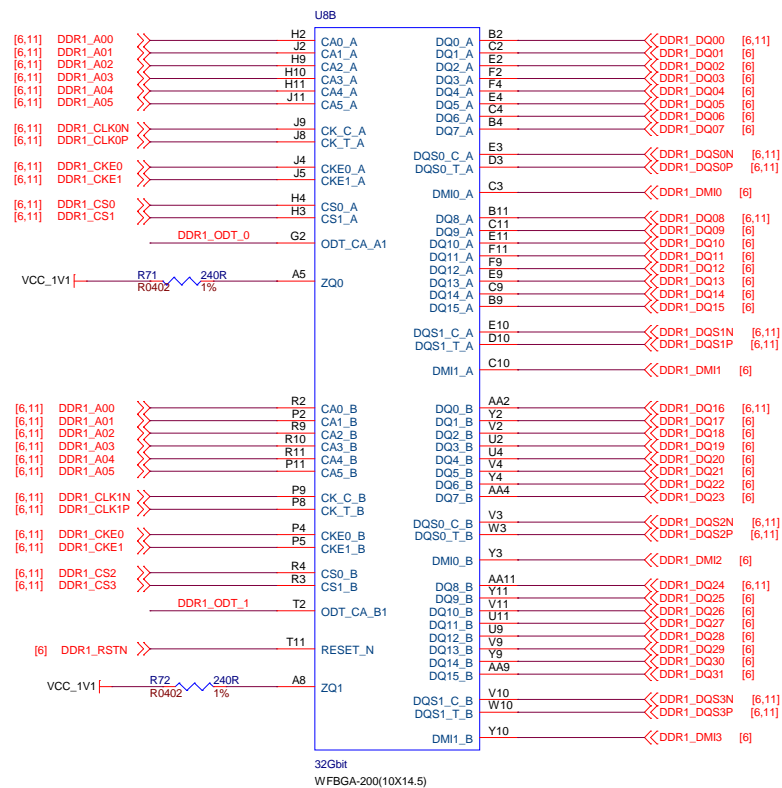
VIC Clock&



LPDDR4



LPDDR4



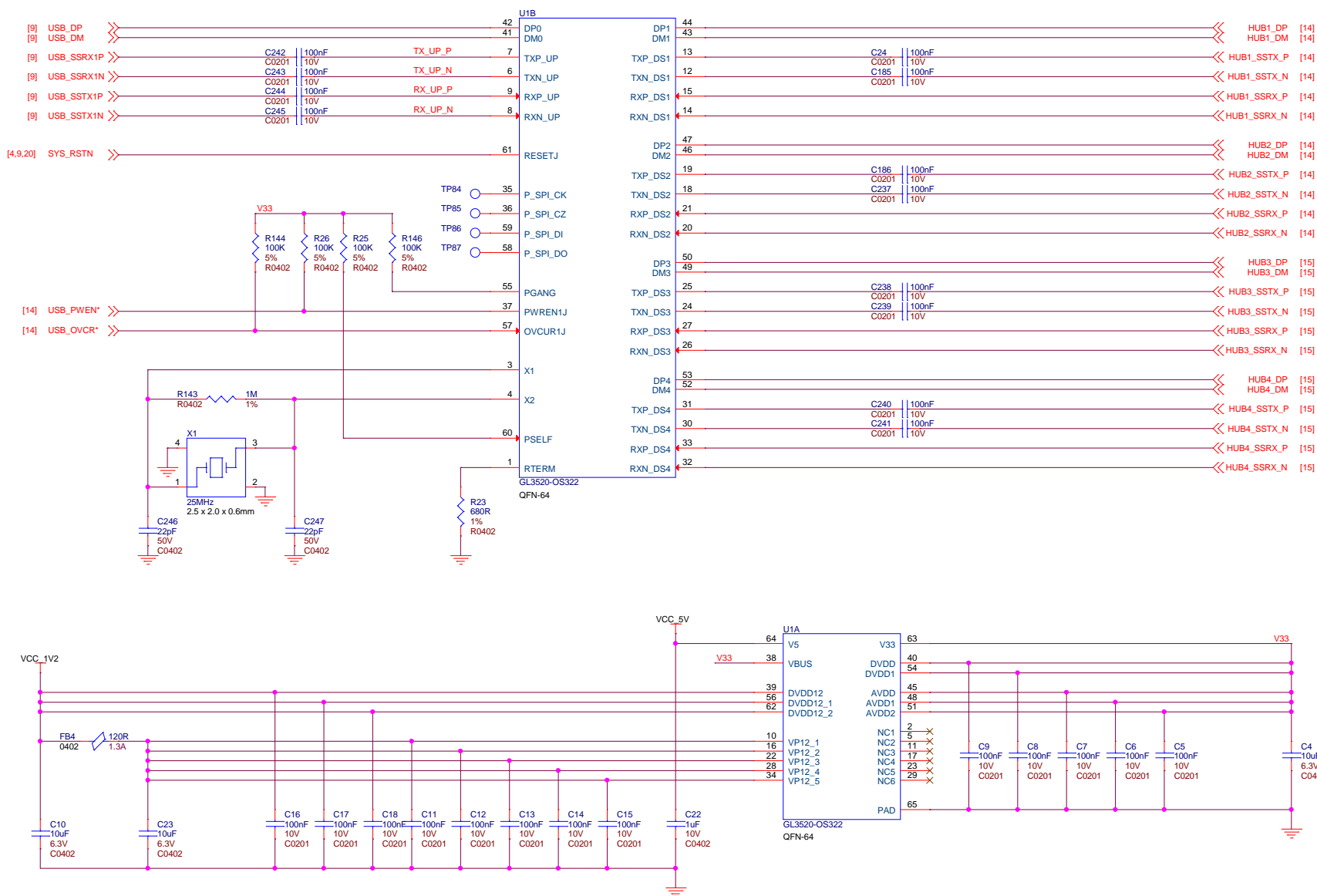
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USB 3.0 HUB TBD



<https://www.seeedstudio.com>

Title: RV PI

Size: A3

Document Number:

13_USB 3.0 HUB

Rev:

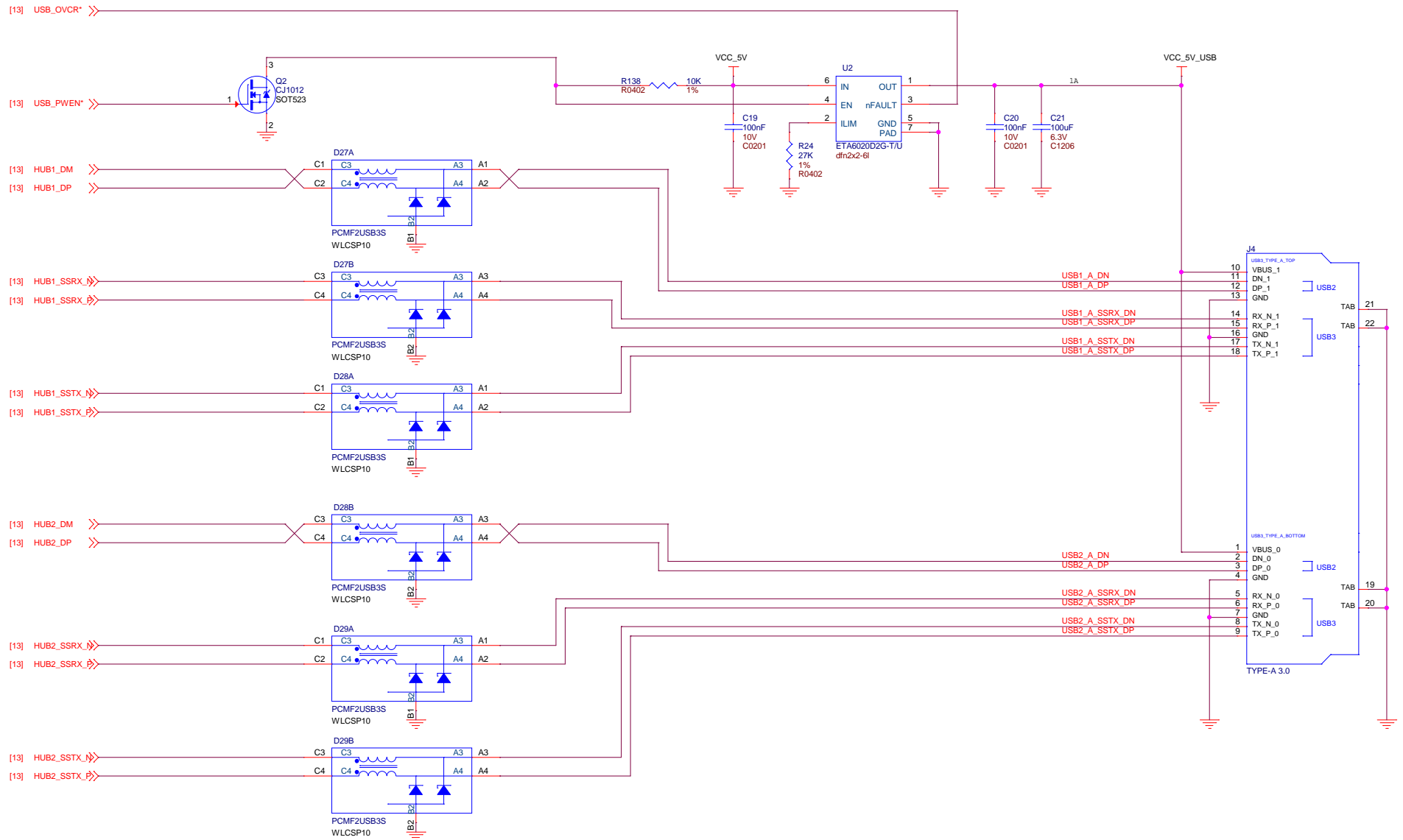
v0.3

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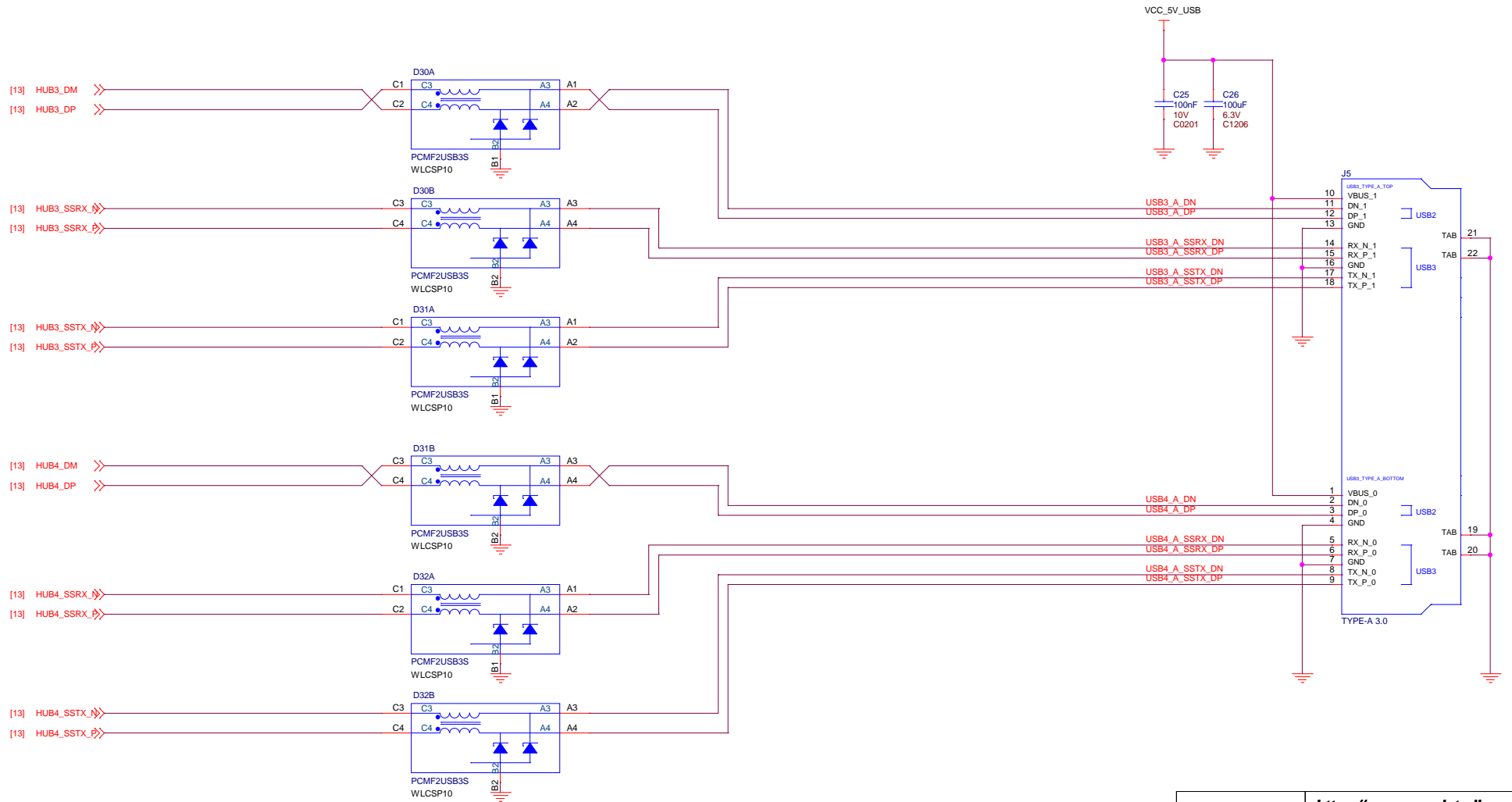
Date: Monday, December 07, 2020

Sheet: 13 of 21

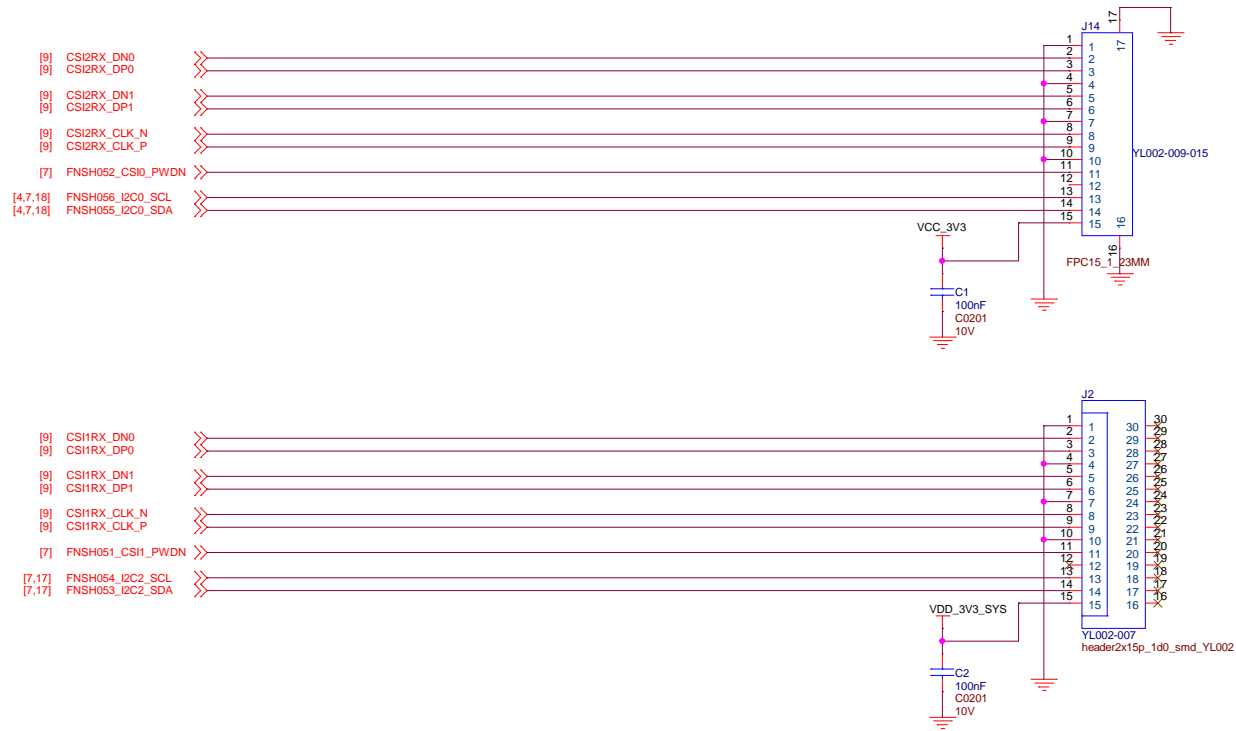
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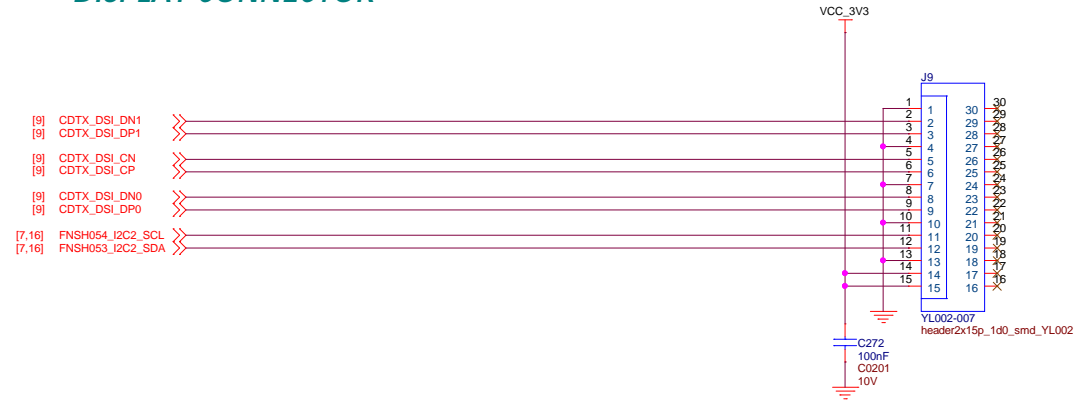
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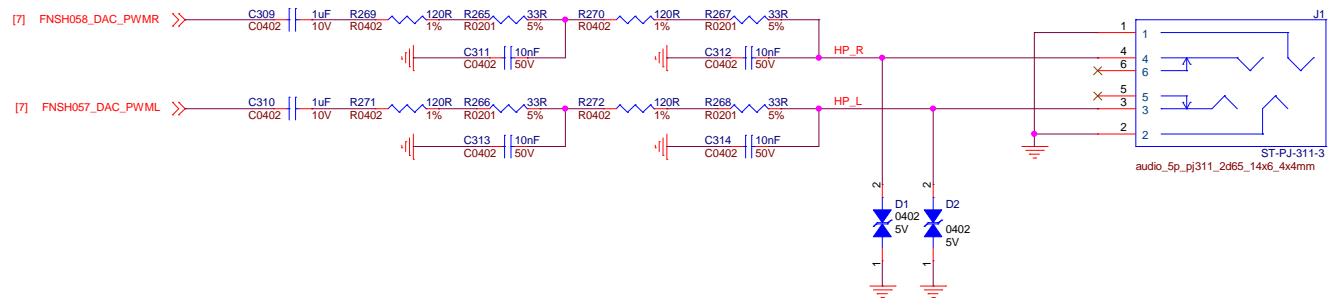
CAMERA CONNECTOR



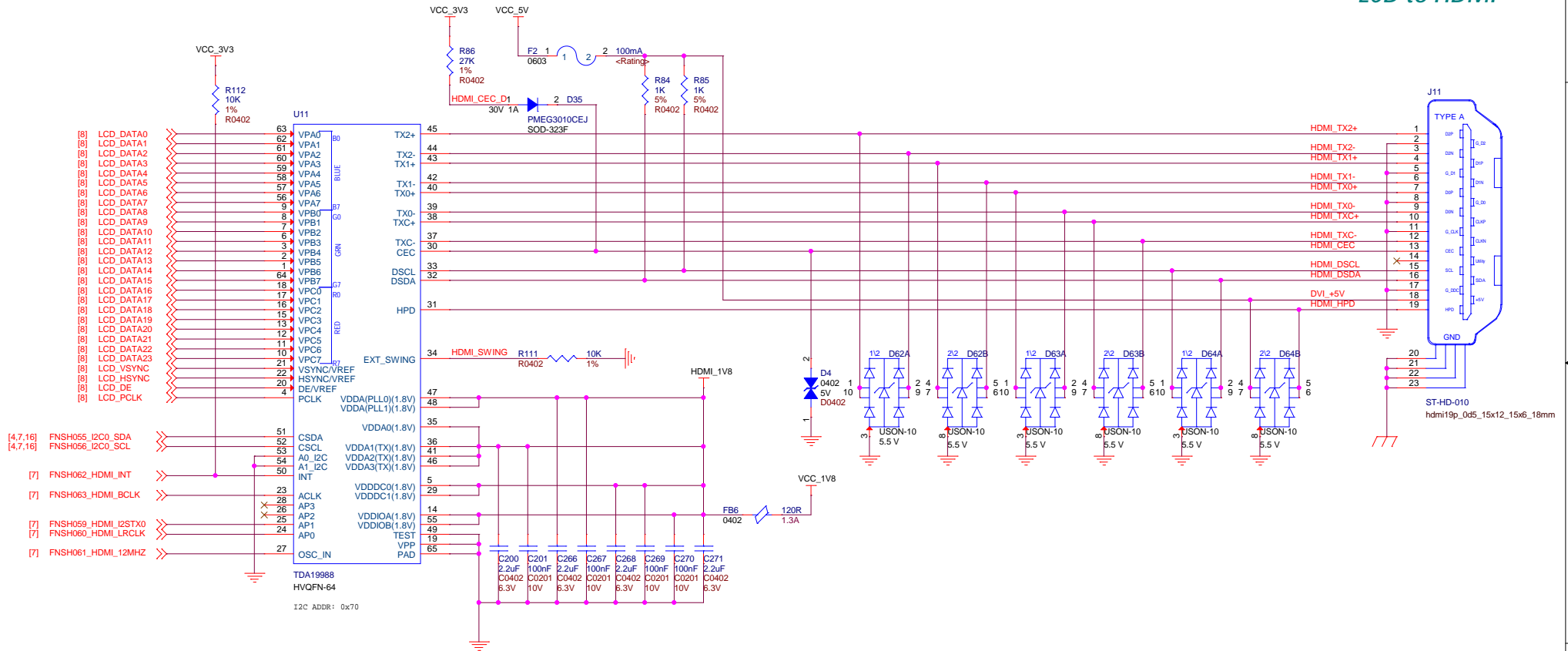
DISPLAY CONNECTOR



AUDIO



LCD to HDMI

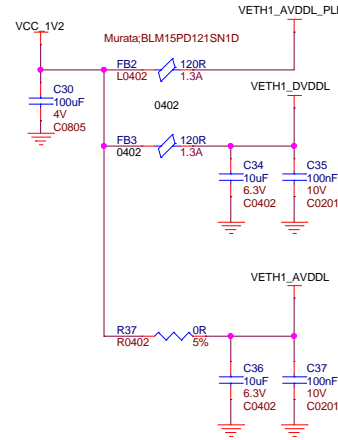
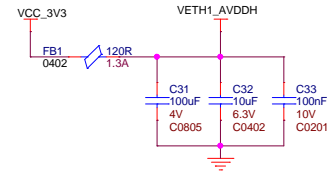
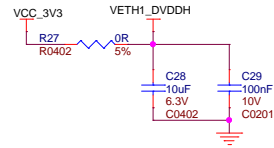


WiFi & Bluetooth

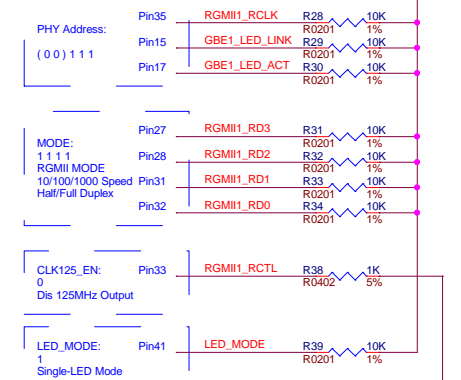
The diagram illustrates the PCB layout for the RV PI module, centered around the AP6236 chip (44P-L12*W12*H1.5mm). The layout includes various components and their connections:

- Power and Grounding:**
 - VCC_3V3 and 3V3_WIFI are connected to the power pins of the AP6236.
 - Grounding is established through multiple GND pins and connections to the LPO_32K and LPO_32K pins.
- Antennas:**
 - ANT1 (RFECA3216060A1T) is connected to the WL_BT_ANT pin.
 - ANT2 (U-FL-R-SMT-1(10)) is connected to the WL_BT_ANT pin.
- Resistors and Capacitors:**
 - Resistors: R130 (10K), R137 (10K), R136 (5%), R135 (1%), R134 (5%), R141 (1%), R140 (5%), R145 (33R), R148 (10K), R149 (10K), R150 (10K), R152 (10K), R153 (10K), R154 (1M), R155 (5%), R156 (5%), R157 (5%), R158 (5%), R159 (5%), R160 (5%), R161 (5%), R162 (5%), R163 (5%), R164 (5%), R165 (5%), R166 (5%), R167 (5%), R168 (5%), R169 (5%), R170 (5%), R171 (5%), R172 (5%), R173 (5%), R174 (5%), R175 (5%), R176 (5%), R177 (5%), R178 (5%), R179 (5%), R180 (5%), R181 (5%), R182 (5%), R183 (5%), R184 (5%), R185 (5%), R186 (5%), R187 (5%), R188 (5%), R189 (5%), R190 (5%), R191 (5%), R192 (5%), R193 (5%), R194 (5%), R195 (5%), R196 (5%), R197 (5%), R198 (5%), R199 (5%), R200 (5%), R201 (1%), R202 (1%), R203 (1%), R204 (1%), R205 (1%), R206 (1%), R207 (1%), R208 (1%), R209 (1%), R210 (1%), R211 (1%), R212 (1%), R213 (1%), R214 (1%), R215 (1%), R216 (1%), R217 (1%), R218 (1%), R219 (1%), R220 (1%), R221 (1%), R222 (1%), R223 (1%), R224 (1%), R225 (1%), R226 (1%), R227 (1%), R228 (1%), R229 (1%), 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Gigabit Ethernet



Strapping Options:



Layout Note:

The RGMII signals must be length-matched by TX and RX groups:

That is, the TX group should be matched within 300 Mils (7.62 mm), and the RX group should be matched within 300 Mils (7.62 mm). Total length should not exceed 1750 Mils (44.5 mm).

There is no requirement to match the TX and RX groups because their clocks are not related.

Layout Note:

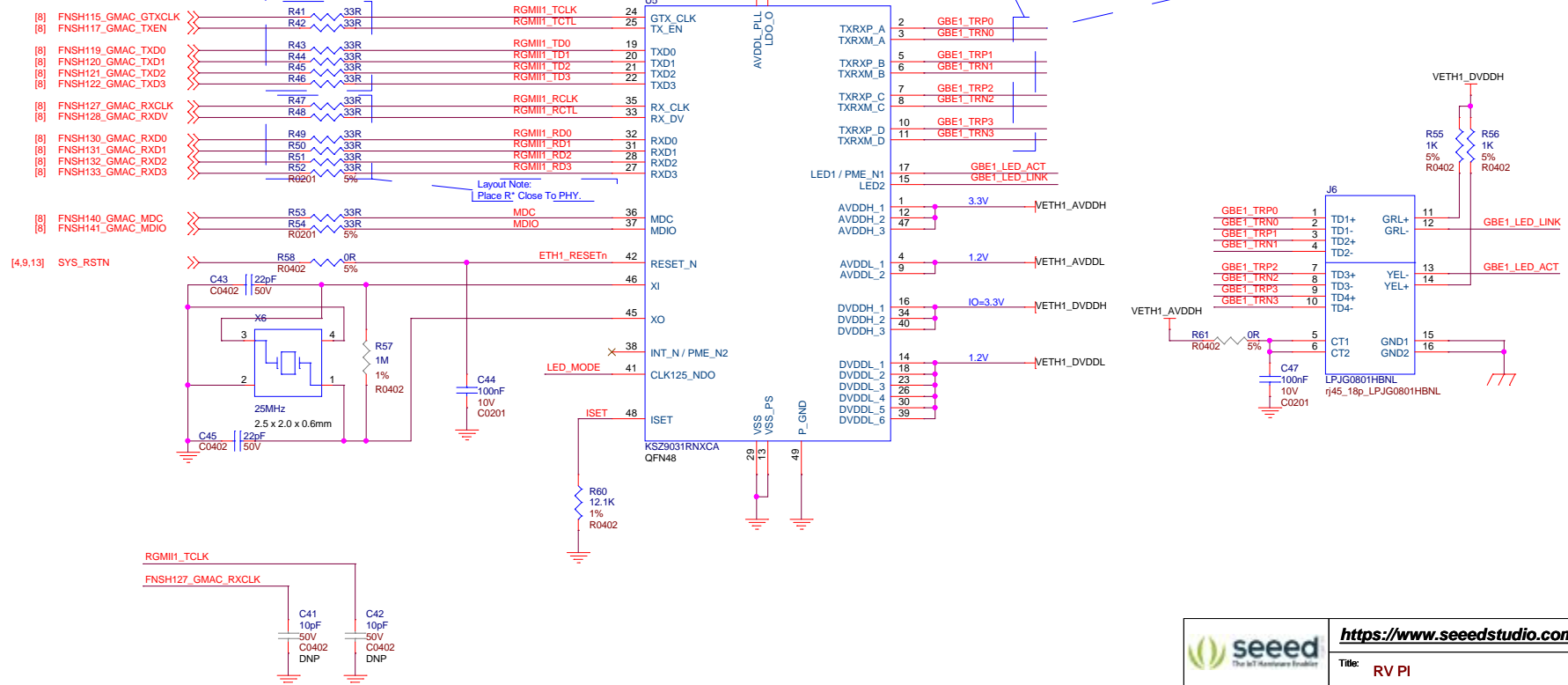
Place R* Close To MPU.

Review Note:

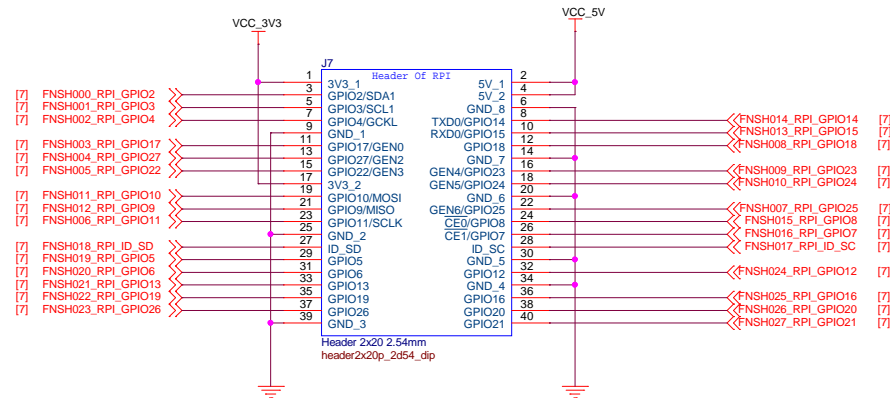
The KS29031RNX reduces board cost and simplifies board layout by using on-chip termination resistors for the four differential pairs, so no other resistors be needed.

Layout Note:

Max trace-length mismatch between GBE signals pairs should be no greater than 7 mm.
100 ohms differential trace impedance.



PI connector



ACK&Power LEDs

